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Original Communications.

APPENDICITIS—ITS TREATMENT.*

BY CHAS. N. COWDEN, M.D., NASHVILLE, TENN.

Possibly the last word on the treatment of appendicitis has been written, but it has not been heeded by at least not a few. The ground has been covered over and over again, and yet we have almost as many different methods as we have practitioners of the healing art.

Long before the pathology of appendicitis was so ably pointed out by Fitz, in his classical paper on the subject in 1886, the profession understood that there was a disease in or around the head of the cecum that was attended with a high mortality. His ob-

*Read at Nashville Academy of Medicine, Tuesday, June 2, 1908.

servation, based on many post-mortem examinations, revealed the fact that many cases of peritonitis had their origin in the appendix, and since then, even up to the present time, a constant warfare has been waged between the internist and the surgeon, as to whether appendicitis was or is a medical or surgical disease. It was always a subject for a heated discussion upon the floor of every medical society, no matter where convened. The internist, yielding step by step, after a bitter, long drawn out contest, until today, nearly all, if not all of our authorities concede it to be a surgical disease, and surgical only. Yet the large majority of the cases are first seen by the general practitioner, and the safety of the patient depends upon the hearty co-operation of the physician and surgeon.

Unfortunately, many of the general practitioners do not yet concede that it is a surgical disease, and they are yet firm in the belief that they can do something that will control or mitigate it, although no less authorities than Osler and Price have said that there is no medical treatment of appendicitis. And if some of the general practitioners accept this teaching they are opposed to applying it in their individual cases, until they have been driven to it by some of the later complications of the disease.

The death rate in every community is still inexcusably high, and the best way to lower it is to get these men who see a few cases each year to recognize the disease early, to appreciate the true pathology, and get them to follow the case to the operating table and observe just the true condition that produces this certain train of symptoms that they are trying to combat, and the folly of some of their methods will be apparent.

They tell us that the mortality of the surgeon is as high, or higher, than that of the internist, but they forget the character of cases brought to the surgeon, and that his mortality would have been practically nil had he seen the cases earlier. And the opportunity that I have had for the past two years of observing these different methods of treatment employed by different ones, has developed some interesting points in connection with the treatment of these cases.

But before we can treat patients suffering with appendicitis with a greater degree of success, it is of the utmost importance

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to make a careful diagnosis; and fortunately, it does not require any great amount of dextrous skill or highly educated diagnostic acumen beyond what can be acquired by any practitioner, to make the diagnosis almost, if not certain, in every case. The reason that a mistake has been made is because a careful physical examination has not been made in every case in which there are any symptoms of intra-abdominal disturbance.

We are too prone to make a diagnosis of indigestion or gastrointestinal catarrh from what the patient or the friends tell us, and not from what we actually find ourselves.

The application of the three cardinal symptoms to each and every case should never be omitted, and would often save the patient from an almost hopeless condition, by revealing his true condition ere the golden opportunity for his relief has forever passed.

The three cardinal symptoms are pain, localized tenderness and rigidity of the right rectus muscle.

The pain, in the greater majority of cases, is acute and sudden in onset and colicky in character, and is referred to the neighborhood of the epigastric region or somewhere about the umbilicus, more frequently than it is over the seat of the appendix itself. Early it is very often diffused over the entire abdomen; but later, as the inflammation in the appendix increases and its peritoneal surface becomes involved, the pain becomes localized or intensified over the seat of the diseased organ. Localized tenderness and muscular rigidity are early, constant and important symptoms. This train of symptoms in the order mentioned are always present in more or less degree of severity in every case, and there should be no mistake in their interpretation, and upon these three symptoms we can predicate a diagnosis. Associated with these three cardinal symptoms we may have the following: Nausea and vomiting; chill, elevation of temperature, increased pulse rate, and later, tympanitis, irritability of bladder, retraction of thigh and limitation of abdominal excursion, obliteration of liver dullness.

When we get these symptoms, as enumerated, firmly in our minds, and they are not only present in every case, but usually markedly so, the differential diagnosis should be easy and cer-

tain. So much so that I will not encroach upon your time by taking up the subject for the cardinal symptoms makes the differential diagnosis.

You all well know that nearly all cases that come to the surgeon are bad and when discussing the case with the physician that had charge of it, although the diagnosis was made early, the reason they gave for the delay is one of the following: 1st. The family would not agree to an operation. 2d. I was treating the case until I was sure that pus had formed. 3d. I treated the case by the starvation method, employed by Ochsner. 4th. I was trying to get him over this attack and do the interval operation.

The first of these objections is a result of the lack of education upon the part of the public and to the half-hearted way and manner in which the operation was recommended by the doctor; also to the lack of unanimity on the part of the profession; although a diagnosis is made early, we can't agree as to what is best to be done in this individual case.

Second, none of us can tell when nor where pus is forming, and if it does form, to what extent it will be disseminated throughout the abdominal cavity. Knowing the virulence of the appendicial infection, its tendency to break through the appendix and in a few hours cause a fatal peritonitis, the man who sits idly by and deliberately waits until he is sure of pus and peritonitis, is only another case of "locking the stable door after the horse is gone."

So widespread has become the misapplication of the Ochsner method of treatment, and it is so easy to put into practice that it deserves more than a passing notice. First, it should be understood that its chief exponents, if they ever did, do not now claim to recommend it for the treatment of appendicitis itself, but for beginning, diffuse, spreading or general peritonitis.

The idea has gone out that where this method was used an operation was not needed, and if an operation was done this method was of no value. The idea is to limit peristalsis, until nature can throw out a limiting wall; but given a case of perforation or beginning or diffuse peritonitis, should we wait until nature fails to limit or localize, and then deny the man an operation, just because we have stopped food, washed out the man's

stomach, given a few enemata and established rectal alimentation?

Why not be rational, and let the infected material out through an opening, even if it has spread out and filled the entire abdominal cavity with pus. And then the Ochsner routine is the best treatment that can be instituted, and fills a most valuable place in the handling of these cases.

The misapplication of this treatment, by its being used for the early cases, is responsible for the high mortality that always attends the late.

If the layman, the physician, and the surgeon could once realize that appendicitis means as early operation as possible, the mortality of the disease would be greatly reduced.

As to the interval operation, it is a wise thing to advocate in the interval; but it is sometimes a most dangerous procedure in the midst of an acute attack. For no one can tell whether the case will ever go to the interval.

To attempt to trust an acute attack until the fourth or fifth day and then be forced as a last chance to submit to the knife, will always be followed by a high mortality, and discredit surgery in the eyes of the public. But as many lives that have been lost by this waiting method, and by great odds the most dangerous one, it is not by far the one that is oftenest used, and very little is said about it, and that is something like the following: They tell you they saw the case, with such severe pain in his bowels, that they had to give several hypos. of morph. before the patient could get any relief, and then I gave him some calomel to work it off. When asked how much, usually 5 to 10 or 15 grains. It did not act, and I gave him some large doses of oil, and he vomited so much that I tried several doses of salts, but the vomiting continued, and then I resorted to enemas of every description, both high and low, till finally the bowels moved, but after doing all that for him, he did not seem to be any better at all, and then I told the family that something would have to be *done*.

In fact, there seems to be an idea among the profession that it is a condition to be relieved by purging. If the bowels would move the man would be better. If we will stop and think for

a moment of the anatomy of the part and then remember the pathology that is going on in the appendix, we will see that our remedies miss the seat of the disease from one-fourth to five inches, and not only do no good, but defeat the object we are trying to accomplish. Even if you could purge the appendix, you would not reach the point of infection, as it is in the wall of the organ. Again, every peristaltic wave defeats nature's effort to limit the focus of infection by dense adhesions thrown around the part. The very first principle of any kind of surgical treatment, rest, is violated, and the danger of perforation is very much increased and general distribution of your sepsis favored by violent peristalsis, produced by your cathartics. And, when these cases, that have been severely purged, come to the operating table every surgeon knows that almost every chance of recovery is gone.

It is not now a case of appendicitis, but of peritonitis, with all of the open mouth lymphatic glands of the peritoneal sack, drinking up the septic material that has been scattered throughout its whole extent, that will result in an overwhelming toxemia, and death.

Gentlemen, the picture is not overdrawn, and the interval not too long between such cases, and this last method of treatment is the reason for presenting this paper to this society. Not that you are guilty of this kind of treatment, but I know that you all have seen and do see, by far too many cases treated in the above manner. This hyper-purgation, with cold or hot applications to the abdomen, with morph. for the pain, seems to sum up the medical aspect of the treatment of these cases by some of the general practitioners even at this day.

Now is it rational, gentlemen, based upon the pathology of the disease in any of its stages? True, some of them will get well, but it is in spite of the treatment. If clinicians could more often observe the pathology of these cases at the operating table in all of its intensity, in some cases with mild symptomatology, and in other cases of pronounced symptoms, find the pathology limited to the appendix alone, and with almost a doubt as to its departure from the normal healthy condition, requiring a microscope to detect it, they would place less confidence upon their abil-

ity to decide which was the case demanding operation or no operation, and they would grow more tolerant to operative measures and less wedded to therapeutic agents in the inceptive stage.

This investigation will of necessity lead us to the conclusion or the universal professional belief that all patients with appendicitis should be operated upon in the first 36 or 48 hours, at the latest. Notwithstanding, eighty per cent. of all cases will get well, but who can pick out the eighty, and why lose the twenty.

This we will designate the first stage—operation. An operation done at this stage should be followed by just 100 per cent. of recoveries. Murphy lost one case in 1200, Treves two in 2000, and many surgeons, with less opportunity than the two quoted, have done many operations in this stage, with no deaths.

Price claims that a perforation or a spreading infection does three times as much harm and kills many times more patients than an inexperienced operator in an early operation. But the minimum of danger is not the only advantage to be gained by an operation in the early stage. The time for convalescence is not more than two or three weeks at the outside. Drainage is not, as a rule, indicated, and hernia is scarcely possible at all. The patient would then be relieved of his appendicitis without hazard, without prolonged illness, without the danger of unpleasant sequella, without the possibility of recurrence, and only by the timely operation in this, the first stage of the disease.

But for some good or bad excuse, the opportune time has passed; the second stage has arrived and we have the rapidly spreading or increasing inflammatory process going on from the second to the fifth day. We have the beginning or the circumscribed abscess around the appendix, the neighboring tissues and organs beginning to be inflamed with the changes of circumscribed or general peritonitis, with elevation of temperature and increased pulse rate, meteorism, intestinal paresis, with manifestations of severe auto-intoxication. Shall we operate in this stage designated by Wallace as the rapidly progressive stage?

There is, unfortunately, a difference of opinion among surgeons today in regard as to what is best to be done in this stage. Some claiming that experience and experimentation have demonstrated the fact that operative measures always increase rather

than lessen the mortality. It is in this stage that Ochsner claimed such remarkable results from his method of treatment. Gastric lavage and peristaltic rest with rectal feeding. But this treatment in the hands of the author, has failed to produce as low mortality results as the operation in all cases, as advocated by Murphy, Price and others. He reports thirty-three cases after they had progressed to this stage of general diffuse peritonitis with ten deaths, and later eighteen more cases of the same kind with ten mortality. Murphy, who perhaps stands for the operation measures in all stages, as possibly no other American surgeon, reports thirty-eight cases with only one death, and Hawks with eleven cases and two deaths.

So, as far as statistics go, the method is of very questionable utility, even in the hands of its originators, and would be less so outside of a well appointed hospital, in the hands of men who are not well versed in its technique.

Would you operate at this stage? Murphy says, yes. But the operation for these neglected desperate cases, must be a *limited* one. That is, a simple opening for the relief of pus tension in the infected area, with removal of the appendix, if it can be done easily, and with no disturbance to the adhesions. There should be the least possible separation of the agglutinated surfaces, as these adhesions are life saving, both in circumscribing the process and in rendering the local tissues unfit for absorption. The best possible means of keeping the infection from traveling in a dangerous direction, of least resistance, and that is towards the peritoneal cavity, is to make an opening in a harmless direction, and away from the adhesions; the more delicate this wall, the more necessity for the opening.

But suppose you have a rupture or a perforation, shall we wait for a walling off? Or is it not far better, in any conceivable case, to let this pus and infection escape, through a harmless point of least resistance? There is nothing peculiar of an infection at this point, that does not come under the simple application of the natural laws of drainage; that is the most important principle in combating sepsis anywhere.

Would you operate if you had general diffuse peritonitis? Why not? It is only a question now of how the patient can

best take care of the toxins. Would a simple opening, that would allow the escape of a large quantity of this toxic material, add to the gravity of the condition, if the pus was allowed to pour out through an opening in the side, favored by posture and gravity?

Murphy claims that the high mortality in these cases is due to excessive manipulations, sponging, flushing, separation of adhesions and prolonged operation, which are all contraindicated, and the late lamented Douglas said that Nature was capable of making her own toilet of the peritoneum with infinitely more gentleness, thoroughness and safety than the surgeon, if allowed to do so by drainage.

The treatment in this stage, then, is incision, drainage, Fowler position, and, as advocated by Murphy, the administration of large amounts of normal saline sol. continuously by rectum.

Then comes the non-progressive or the subsiding stage. In this stage pus is an element of great danger. Shall we operate now? The case has for some reason been in progress for several days, and now we find all the symptoms and physical evidence of the disease subsiding. Reason would indicate that Nature had mastered the situation for the time, and would lead to a period of greater safety, if assisted by quietude in bed, with restricted diet. So we would be content with rest, restricted diet by rectal administrations. But we must not mistake the lull before the storm of spreading peritonitis, produced by perforation or broken down walls of adhesions, with escape of infection in the general cavity.

After this we reach the interval stage. The stage of self-congratulation to all who reach it. If the ideal management of appendicitis were possible, this stage would never be reached. If all cases were dealt with in a radical way in the inceptive stage, there would be no interval stage, perhaps no abscess stage, no peritonitis stage, no perforation accidents, no mortality stage.

But the reasons for operating in this stage are the following: First, after an attack the patient is prone to a recurrence. 2d. Sixty per cent. of the cases by Murphy, in the intermediate stage, had more than one attack. Third, the adhesions, flexions and stenosis greatly favored a second attack. Fourth, if there was

no danger of a second attack, the condition of the organ demands its removal, for digestive disturbances. Fifth, the attacks are usually markedly increased in severity, and last, the appendix can be removed with little if any danger at all to patient, and without in any way resulting in harm to the physical economy.

In order then to diminish the mortality of appendicitis the following conclusions are forced upon us:

(1) An early diagnosis. (2) Appendicitis is always a surgical disease. (3) Withhold purgatives and all fluids per mouth to limit peristalsis. (4) Every patient is entitled to and should have an operation within the first 48 hours, without waiting for pus outside of the appendix. (5) Cases of perforation, localized abscess or gangrene should be opened and drained, with removal of the appendix, if it can be done without disturbing the adhesions. If not, drain only. (6) Price, Murphy and others have shown a greater number of recoveries in diffuse peritonitis, when all cavities are opened and drained, without flushing. (7) If the case is subsiding, after the fifth days, the Ochsner method may be employed, awaiting a more favorable time for operation. (8) Operation should be urged in all interval cases. Last: seldom if ever has an operation been regretted in any stage of the disease.

PERNICIOUS ANAEMIA.*

BY CLINTON E. BRUSH, M. D., OF NASHVILLE, TENN.

In the minds of many, this disease is very rare. While it is unusual, it cannot be classed among the rare diseases, for it is far more common than we formerly believed, and undoubtedly many of the cases have hitherto passed unrecognized. With the increased laboratory training that is given to our students in medical schools, fewer cases of pernicious anæmia are being missed; for this is essentially a disease in which no positive diagnosis can be made without a blood examination. Indeed, the

*Special address at meeting of the Nashville Academy of Medicine, July 7, 1908.

geographical distribution of pernicious anæmia shows that the large majority of cases occur in those centers where blood examinations are most frequently made—over 65 per cent. of all the American cases being reported from Boston and Baltimore. It may be said that its frequency varies directly with the care with which it is sought.

The disease was first described by Addison in 1855, who separated a group of cases which were characterized by "a general anæmia occurring without any discoverable cause whatever, cases in which there had been no previous loss of blood, no exhausting diarrhœa, no chlorosis, no purpura, no renal, splenic, miasmatic, glandular, strumous or malignant disease." Cabot defines it as "a chronic and usually fatal disease of unknown origin, producing, especially in elderly men, paroxysms of intense anæmia and usually degeneration of the spinal cord."

The disease shows no evidence of any hereditary nature, although members of the same family may be attacked. It is essentially a disease of elderly people—nearly 80 per cent. of all cases occurring after 35 years of age. No age is exempt, however—the disease occasionally being seen in infants. Males are affected much more frequently than females, the proportion being about two to one. Although more common in the white race, negroes may be affected.

When we come to discuss the etiology of this disease, we find many theories and few proven facts. William Hunter first proposed the view that the condition is due to two factors: (a) hemolysis, (b) a chronic septic infection of oral, gastric or intestinal origin—the former condition probably dependent upon and resultant from the latter.

That the disease is always associated with marked hemolysis is accepted by all modern writers, but there is not the same unanimity of opinion as to its cause being a septic focus in the alimentary tract. Cabot, for example, as late as 1908, states it as his belief that in only a minority of the cases is there any evidence of sepsis along the intestinal tract or of any connection between the gastro-intestinal tract and the hemolysis. Pregnancy and the puerperium, syphilis, malaria, the menopause in women, gastric atrophy, intestinal parasites, chronic diarrhœa, nervous shock and

small repeated hemorrhages have been suggested as etiological factors. That these conditions may produce very severe and even fatal anæmia is readily granted, but, aside from those cases due to intestinal parasites, a careful study of the cases clinically in conjunction with the blood findings shows that they fall in a different class from those to which the name pernicious anæmia should be given. Although Osler believes that the blood picture of pernicious anæmia may be produced by gastric atrophy, intestinal parasites and pregnancy and parturition, that view is not accepted by all. Cabot prefers to regard the gastric atrophy as a result rather than a cause of the disease, or as a post-mortem change.

Of the intestinal parasites, the only one that can produce an anæmia indistinguishable from pernicious anæmia is the *Dibothriocephalus latus* or fish tapeworm. While it has long been known that this parasite may produce in an individual the typical symptoms and blood picture of pernicious anæmia, it was not until Talquist's researches were published, about a year ago, that we had any clear conception of how the condition was produced. In the proglottides of this tapeworm he discovered a lipoid substance which possessed powerful hemolytic properties. Experimentally he produced in animals the typical blood picture and tissue changes of pernicious anæmia by injection of this lipoid substance. He also showed that from the intestinal mucosa of man there could be formed a lipoid substance similar to that obtained by the disintegration of the mature segments of the fish tapeworm, and he suggests that in cases of pernicious anæmia there are alterations of the intestinal mucosa which lead to the liberation of this hemolytic substance. His suggestion certainly sounds logical.

By a rather circuitous chain of reasoning, Hollis and Ditman attempt to prove that a different form of intestinal toxæmia may be the cause of pernicious anæmia. It is well known that most cases of pernicious anæmia show an excess of indican in the urine, due to increased indol formation in the intestinal tract. It has also been shown that in pernicious anæmia there are present in the intestinal contents large numbers anærobic bacteria, which convert proteids into a form suited to the use of

other putrefactive, indol-forming organisms. An excess of indol may produce toxic symptoms in patients whose oxidizing capacity is below normal. Moreover, the anærobic bacteria produce substances that have a powerful hemolytic action, and these, passing through the intestinal mucosa, could produce destruction of the red cells in the portal vessels. They reason that, since there is an excess of indican in the urine and since there are present these anærobic bacteria that produce hemolytic substances, therefore the toxic symptoms of pernicious anæmia are probably due in part, at least, to the excessive indol formation in the intestine; and the blood destruction is due to the entrance into the portal circulation of the hemolytic substances produced by the anærobic bacteria. The weak point in the argument, as I see it, is that these same bacteria are present in the intestine normally, although not in such large numbers, and there is also no proof that the hemolytic substance produced by them is absorbed.

Tixier, in a study of the relation between gastro-intestinal conditions and pernicious anæmia, or, rather, severe anæmias of the pernicious type, discusses the three factors which are usually ascribed as the etiological factors in the production of the anæmia. They are

1. Repeated hemorrhage—microscopic or macroscopic.
2. Functional insufficiency of the blood-forming organs.
3. Destruction of the red cells by a toxin.

He shows that repeated hemorrhages, unless great, do not produce an extreme grade of anæmia, and, when the anæmia is severe, it is not of the pernicious anæmia type. In practically all the cases that he studied he found that the bone marrow had sufficient functional activity, and, in many cases, it appeared more than able to produce a normal amount of blood, if other factors were normal. In his opinion it is the hemolysis that is the important factor in the production of the grave anæmia, and he bases his conclusion upon the following facts:

1. In the spleen and bone marrow there were evidences of hyperactivity in the hemolysis of red blood cells.
2. After the production of a non-hemorrhagic unæmia in animals, he found in their serum a toxic substance which possessed two properties: (a) destruction of red blood cells, (b) stimula-

tion of the blood-forming organs, especially the bone marrow. These are the essential processes that we find going on in cases of pernicious anæmia.

From these facts that I have given, it will be seen that clinically the evidence is in favor of pernicious anæmia being the result of the absorption of some hemolytic substance from the gastro-intestinal tract. Can we produce pernicious anæmia experimentally in a similar way? Since the absorption of hemolytic substances from the gastro-intestinal tract in quantities sufficient to produce a grave anæmia must presuppose an abnormal condition somewhere in the gastro-intestinal tract, we cannot expect the intestinal mucosa of a normal, healthy animal to permit the passage of such hemolytic substances, even if it were possible to isolate the substances in such a way that they could be given to the animals by the mouth. But we can produce the typical picture of pernicious anæmia in animals by the injection of various hemolytic substances. Along this line Bunting's work is probably as full and as comprehensive as any. By the injection of ricin, which is a soluble toxalbumin derived from the castor oil bean and which has a marked hemolytic action on rabbit's blood, he was able to produce in rabbits the typical blood picture and tissue changes that are found in pernicious anæmia. By repeated bleeding of the animals he was able to produce a very severe anæmia, but it was always of the secondary type, with only a very few nucleated red cells in the peripheral circulation, and those always of the normoblastic type.

Even after daily bleeding of the rabbit for eighteen days no megaloblasts were present. In addition to these experiments, Bunting made very careful histological study of the bone marrow of laboratory animals and also of human beings, with the result that he overthrew to some extent the views of Ehrlich, who believed that megaloblasts are not present in normal bone marrow. He found that in the marrow of all the animals studied there were nests or groups of cells, which he speaks of as erythrocytic groups. In these erythrocytic groups there is a definite arrangement of the cells. In the center are megaloblasts. Outside of these are the intermediate forms. Beyond these are the normoblasts, while around the outer margin of the erythrocytic

group is a collection of mature non-nucleated red cells. As a result of this grouping of the erythrocytic cells, the older and more mature cells are constantly pushed toward the periphery by the division of the cells at the center, and thus the non-nucleated red cell comes to lie farthest away from the center of the group and nearest to the capillaries. As a result of these discoveries, Bunting is led to the following conclusions: "In hemorrhage there is created a deficiency in circulating red cells, which is met by the marrow with the mature red cells lying close to the capillaries at the periphery of the erythrocytic groups. In large hemorrhages, with exhaustion of the supply of mature red cells, a certain number of normoblasts are called out to supply the deficiency.

"On the other hand, with a circulating toxin, there is destruction not only of red cells in the circulation, but also of some, at least, in the marrow, even of normoblasts as suggested by the large number of naked nuclei found later in the circulation. The marrow responds in this emergency with nucleated red cells of normoblastic or megaloblastic type, depending upon the extent of the destruction.

"Applying these conclusions to pernicious anæmia, it seems possible that an analogous toxin may be present, destroying red cells, both in the circulation and in the marrow, so that in the reaction nucleated red cells are used to supply the deficiency—that further action of the toxin reduces the erythrocytic groups more or less to the megaloblastic centers, diminishing greatly the regenerating powers of the marrow and resulting in a discharge of megaloblastic cells in the hasty effort to supply the needs of the circulation. Thus the regular orderly development of the groups of the marrow cells is interfered with and a short cut is taken from the megaloblast to the macrocyte—an imperfect, immature cell. In this light it is not difficult to see why cases of pernicious anæmia, with few normoblasts and more megaloblasts in the circulation, are of graver prognosis than those with a large number of normoblasts and few megaloblasts. And, again, if one regards the presence of nucleated red cells in the circulation as evidence of injury to the bone marrow, one has an explanation for the 'nucleated red cell crises' of pernicious anæmia and leu-

kæmia in which the blood picture resembles much that shown in ricin intoxication."

The pathology of pernicious anæmia may be considered under two heads—the blood picture and the tissue change. As I have said already, pernicious anæmia is a disease in which no positive diagnosis can be made without the blood examination. The blood picture is practically pathognomonic. Without going into the finer details, it may be briefly summarized as follows:

1. A marked diminution of the red cells—usually below 2,000,000 per cu. mm. when the patient first consults the physician.

2. A diminution in the percentage of hemoglobin, but not to so marked a degree as the red cells.

3. A resultant high color index—the color index of the blood being the figure obtained by dividing the percentage of hemoglobin by the percentage of red blood cells, 5,000,000 being accepted as representing 100 per cent. red cells. This is one of the most important features of the blood picture.

4. A diminution in the number of leucocytes, as a rule.

5. In the stained specimen,

- (a) The presence of nucleated red cells—normoblasts, intermediate or megaloblasts.

- (b) Poikilocytosis—i. e., irregularity in shape and size of the red blood cells—presence of some very large and some very small cells.

- (c) A degenerative condition in many of the red cells.

- (d) The cells are, on the whole, darker than normal.

- (e) A relative increase in the percentage of small mononuclear cells.

- (f) The presence, as a rule, of myelocytes.

In the tissues the chief changes are:

- (a) Intensely red muscles with bright yellow fat.

- (b) Fatty degeneration of the heart, liver and kidneys.

- (c) Degenerations in the spinal cord, chiefly in the posterior columns and most often in the cervical region, but may extend further down the cord. Sclerotic patches are also frequently found in the lateral columns of the cervical and dorsal regions.

Eighty per cent. of the cases which are autopsied show cord changes.

(d) Deposition of iron in the liver, spleen and lymph glands.

(e) Changes in the bone marrow—the chief of which is a marked hyperplasia of the erythrogenetic centers, so that smears show the presence of an unusually large number of megaloblasts.

Is pernicious anæmia a blood disease? Admittedly, it is not due to decreased blood formation, but to the presence of something that causes rapid blood destruction. In addition, the following facts would tend to show that the result of the disease is not solely blood destruction:

1. In some cases, evidence of postero-lateral sclerosis in the spinal cord precede the onset of the anæmia—strong evidence of the presence of a circulating toxin.

2. The anæmia itself cannot account for the fatty changes in the liver, heart and kidneys. These and the cord changes can be much more easily explained on the ground that they are caused by the same poison that produces the hemolysis.

3. The symptoms do not necessarily run a parallel course with the blood condition. In some cases, with the blood steadily improving, there is no improvement in the symptoms, while in others there may be marked improvement in the symptoms with practically no changes in the blood condition.

For the chief symptomatology of the disease we can do no better than go back to the original description of Addison, who presents it in the following words: "It makes its approach in so slow and insidious a manner that the patient can hardly fix a date to the earliest feeling of that languor which is shortly to become so extreme. The countenance gets pale, the whites of the eyes become pearly, the general frame flabby rather than wasted, the pulse perhaps large, but remarkably soft and compressible, especially under the slightest excitement. There is an increasing indisposition to exertion, with an uncomfortable feeling of faintness or breathlessness in attempting it; the heart is readily made to palpitate; the whole surface of the body presents a smooth, blanched and waxy appearance; the lips, gums and tongue seem bloodless, the flabbiness of the solids increases, the appetite fails, extreme languor and faintness supervene, breath-

lessness and palpitations are produced by the most trifling exertion or emotion; some slight œdema is probably perceived about the ankles; the debility becomes extreme—the patient can no longer rise from bed; the mind occasionally wanders; he falls into a prostrate and half-torpid state, and at length expires; nevertheless, to the very last, and after a sickness of several months' duration, the bulkiness of the general frame and the amount of obesity often present a most striking contrast to the failure and exhaustion observable in every other respect."

The first symptom usually complained of is general weakness, accompanied or preceded by some gastro-intestinal disturbance—nausea and vomiting, diarrhœa, indigestion, anorexia and stomatitis being the order of frequency.

In another large group of cases, nervous symptoms accompany or precede the onset of the weakness, with or without any gastro-intestinal disturbance. They may be varied, and I shall merely mention them—headache, blurred vision, fainting spells, insomnia, nervous irritability, numbness and tingling in the hands and feet and occasionally an actual paraplegia. Of these, the most important are the numbness and tingling, headache and blurred vision.

Cardio-respiratory disturbances may be the first symptoms of onset, as dyspnœa, palpitation of the heart and œdema.

The classical waxy, lemon-yellow color is not always present, for occasionally we see a white anæmia. But in the vast majority of all cases it is present and frequently leads to the diagnosis of jaundice. True jaundice may be present, but usually is not. Hemorrhages, chiefly from the nose and mouth, may be present. Periods of pyrexia, or even a slight, almost continued fever, may occur. Night sweats are sometimes a prominent feature.

Of the sensory symptoms, the paræsthesias already referred to are all that occur as a rule. They are, however, very important and, in my opinion, are present in over 90 per cent. of all cases.

The most striking feature in the physical examination of a case of pernicious anæmia is the practical absence of abnormal physical signs, exclusive of the color of the patient and the blood changes. In striking contrast to the marked pallor and waxy color, stands out the fact that there has been little or no loss

of weight, as a rule. Most of the patients have lost some weight, but in over 60 per cent. of the cases it has been so slight that the patients have not noticed it themselves. On the other hand, although the nutrition seems to have been well preserved, we find that the muscles have lost their tone and are very flabby.

The heart, as a rule, shows no actual changes on physical examination. In about 18 per cent. there is some dilatation, in some cases sufficiently marked to cause a relative insufficiency of the valves. The pulse is usually weak and flabby—showing not only a low blood pressure, but also a marked vascular relaxation, due to loss of tone of the vessel wall. Murmurs are heard in a very large percentage of all cases—leading many times to the erroneous diagnosis of valvular heart lesion. In all of Cabot's 342 cases a cardiac murmur was heard, and my own limited experience is in accord with his. In practically all cases the murmur is systolic in time. In about 40 per cent. of the cases it is heard with equal intensity over the whole precordium; in about 30 per cent. the murmur is of maximum intensity at the apex, while in the remaining 30 per cent. the maximum intensity is at one of the other areas. These murmurs are of the so-called functional or hæmic type, and result either from a relaxed condition of the cardiac muscle or from some alteration in the blood. Nine of Cabot's cases presented diastolic murmurs. Of these, four came to autopsy, and in none of them was there any valvular lesion. They are probably explainable on the ground of the marked elasticity of the cardio-vascular system in severe anæmias.

As in all severe anæmias, visible pulsation in the superficial vessels is usually present, and, in the majority of the cases, the radial pulse has a collapsing quality. Oedema, usually of the feet and ankles, is frequently present and due probably to the anæmia.

In a majority of the cases, examination of the gastric juice shows an absence or marked diminution of free HCl. Although atrophy of the gastric mucosa may be present, many cases are reported in which, with no free HCl in the gastric juice during life, there were found no pathologic changes in the stomach at autopsy.

The liver is enlarged slightly in about 33 per cent. of the cases,

and the spleen in about 25 per cent. Glandular enlargement, slight in extent, is present in less than 20 per cent. of the cases.

Fever is usually present during the periods when the blood is at a low ebb, or in cases of acute pernicious anæmia. During remission it is absent. Its presence is a sign of a severe type of the disease. In about 80 per cent. of the cases it is present.

The urine is usually about normal in amount, of a pale color and low specific gravity. Albumin, slight in amount, is present in about 50 per cent. of the cases, and most of those with albumin show also casts of the hyaline and finely granular type.

Osler makes the statement that the disease is not often recognized by the general practitioner. The diagnosis usually applied to cases of pernicious anæmia are: Liver trouble, because of the lemon-yellow color being mistaken for jaundice; heart disease, because of the dyspnoea, palpitation of the heart and usual presence of a systolic murmur; Bright's disease, because of the anæmia, œdema, and albuminuria; stomach trouble, because of the gastric symptoms.

Although pernicious anæmia is almost always fatal, it is not uniformly so. The prognosis is, at best, very bad, but enough recover for us to hold out some hope to the family. Thus Coleman reports a case from the Guy's Hospital who had the disease in 1880, was treated with arsenic, and was alive and well in 1900. One of Osler's cases recovered and remained normal until six years later, when he died of cancer of the stomach. Three years ago two others of his patients were living—one six years and one four years after apparent recovery. As a general rule, the course of the disease is not progressively downward. There are usually remissions in which the blood returns to or approaches normal, and the patients' symptoms disappear more or less so that he may feel perfectly well. These remissions last from a few months to several years. In general, it may be said that we are safe in telling our patients, if we see them during their first attack, that they will improve under treatment so as to be able to be up and about their business again, for it is only in rare cases that the disease progresses steadily to a fatal termination without a remission.

Osler tersely sums up the essentials for the proper treatment of pernicious anæmia under five heads:

1. Correct diagnosis.
2. Absolute rest in bed.
3. Fresh air and sunlight.
4. Food—all the good food that the patient can eat.
5. Arsenic to the limit of toleration.

Since the last edition of Osler's Practice, however, the evidence in favor of the gastro-intestinal origin of the disease has accumulated so rapidly that the more recent work along the line of treatment has been directed to the correction of the intestinal condition.

Cabot some years ago noticed that, after a period of severe diarrhœa, his patients would improve very markedly and very rapidly. Therefore he instituted treatment with laxatives to keep the bowels constantly loose for a considerable period of time, and, although some of his patients seemed to improve under the treatment, it could not be said definitely that the improvement was the result of the treatment.

As a result of careful studies on the bacterial flora of the intestine and the presence of oxygen in the intestine, Herter concluded that the anærobic bacteria play an important part in the production of pernicious anæmia and that they must live in the large intestine, since he was able to demonstrate the presence of oxygen in the bowel as low down as the ileo-cæcal valve. He suggested, therefore, that pernicious anæmia be treated by the mechanical removal of the bacteria by means of enemata, given high—if such a thing is possible. Hollis and Ditman report two cases treated in that manner that improved very markedly, although they have not been under observation long enough to say, as yet, whether the improvement is a permanent one or merely one of the remissions so common in this disease.

Houghton reports a case of probable pernicious anæmia treated by cecostomy followed by colonic irrigations twice daily. The patient was also put on a nitrogen-free diet. In a year from the time of the operation he seemed to be well. I class this as a probable case of pernicious anæmia, because of the incompleteness of

the blood count—only the hemoglobin percentage and the differential leucocyte having been reported.

Of course, the X-rays have been used in pernicious anæmia, but no good has resulted, and no apparent reason for their use can be brought forward. Indeed, owing to their effect upon the erythro-genetic centers, it is probable that they do more harm than good.

Arsenic is the only drug that does good in pernicious anæmia. It is best given in the form of Fowler's Solution and should be pushed to the limit of toleration, beginning with v. t. i. d. p. c. and increasing m. i about every three days. Going up thus gradually, most patients can reach m. xv.-xxv. t.i.d. without showing symptoms of overdosage. The untoward effects are: Nausea and vomiting; diarrhœa; itching, burning and swelling of the eyes; brownish pigmentation of the eyes and a peripheral neuritis. These symptoms must be closely watched for, and, as soon as any of them appear, the drug should be discontinued at once and begun again in a few days at a smaller dose than that which produced symptoms. Some patients are not able to take Fowler's solution at all, but can take arsenious acid, which is given in pills of 1-100 gr. after meals. If this causes vomiting, atoxyl or sodium cacodylate may be administered hypodermically. If the patient cannot take arsenic, the outlook under medical treatment is very bad. Occasionally iron seems to do good.

In conclusion, I would like to report four cases of pernicious anæmia which I have had under my care in the past two years:

Case 1. Unfortunately my records in this case have been lost and I can merely give the salient points from memory. He was a man between 55 and 60 years of age who had had gastro-intestinal symptoms—nausea, vomiting and diarrhœa for about a year. He had been treated for "stomach trouble and dysentery," to use his own words. The blood examination showed a red cell count of about 1,000,000 and hemoglobin of 25 per cent. Poikilocytes and nucleated red cells were present in the stained specimen. He improved slightly during the six weeks that I had him on arsenic and then he left Nashville and I lost track of him.

Case 2. J. B. H. Man, age 67.

Complaint. Shortness of breath and weakness.

Family history. Negative.

Past history. Negative, except for an attack of influenza five years previously, since which time patient has never quite reached his former good state of health.

Present illness. So far as he could tell, it dated back about 18 months, at which time he first began to notice that he could not do as much work as formerly, and he had some shortness of breath on exertion. These symptoms grew gradually worse. In addition, he noticed that his skin was becoming yellow, and he was greatly troubled with headache, insomnia, blurred vision, sore tongue and numbness and tingling in his feet. He also had slight swelling of the feet and ankles and occasional attacks of diarrhoea. He consulted his physician, who told him that he had liver trouble. After three months' treatment without improvement, he went to another physician, who told him that he had heart and kidney trouble, and treated him accordingly. Naturally, he did not improve. After a while, he went to another, who ascribed his condition to heart and liver trouble. A fourth told him he did not know what was the matter with him, except that he was getting old. He came under my observation on Jan. 26, 1907. At that time his blood showed 1,200,000 red cells, 5,000 leucocytes and 28 per cent. hemoglobin. In the stained specimen there were poikilocytes, nucleated red cells—both of the normoblastic and megaloblastic type—and the differential count showed an increase in the small mononuclear cells. Under treatment with arsenic, the blood rose to 4,200,000 red cells per cu. mm., and the hemoglobin to 85 per cent. in six months, remained there for about three months, during which time he was in fairly good health, and then gradually decreased until in February, 1908, he had only 1,000,000 red cells and 20 per cent. hemoglobin. He died on March 20, 1908—fourteen months after I first saw him.

Case 3. J. A. Man, age 56.

Complaint. Shortness of breath and weakness.

Family history. Negative, except that one sister had died of pernicious anæmia.

Past history. Negative, but has always been considered more or less delicate.

Present illness. So far as the patient is concerned, it dates

back about seven months, at which time he first began to feel weak, although his wife tells me that she thinks he has been getting yellow for about two years. He took a tonic and improved in about six weeks so that he could attend to his regular work. About March 1, 1908, however, he felt the weakness coming on him again and he was forced in a short time to give up all work. At that time he had weakness, headache, sore mouth, nausea and vomiting and extreme shortness of breath on the slightest exertion. I first saw him June 2, 1908. At that time his blood count showed 1,900,000 red cells, 5,500 leucocytes and 40 per cent. hemoglobin. The differential count showed a slight increase of the small mononuclears, but no nucleated red cells were found. There was some poikilocytosis. So far, the patient has not been able to retain arsenic in any form when given by mouth and he has grown steadily worse, in spite of intestinal lavage. His blood now shows 1,100,000 red cells and 22 per cent. hemoglobin, with nucleated red cells present.

Case 4. H. C. L. Negro man, age 28.

Complaint. Weakness, heart and kidney trouble.

Family history. Negative.

Past history. Always healthy until 1904, when he had typhoid fever.

Present illness. In 1906 he had an attack of what his physician called "gastritis," which lasted three or four months. Then he got very much better and was able to work until March 23, 1908, although he had been feeling badly for two weeks before that with weakness, anorexia, nausea and vomiting and constipation. Thinks he had been pale for about a month before that. Had also had severe headache, insomnia, blurred vision, sore mouth, numbness and tingling in hands and feet and some fever. The physician who was called in March told him that he had a valvular lesion of the heart and chronic Bright's disease. I first saw him on April 23, 1908. The notes made at that time are:

Present condition. Fairly well nourished negro man. Marked pallor—lips, conjunctivæ and tongue appearing almost bloodless. Some yellow tinging of the conjunctivæ. Distinct yellow tinge to ears, finger tips and other parts where the skin is thin. Visible pulsation in vessels of neck. Pupils

equal and react to light and accommodation. Temperature 100.5. Pulse 108, regular in force and rhythm and of very low tension—a soft, flabby, almost collapsing pulse. Teeth in good condition; no pyorrhœa alveolaris. Tongue very pale, slightly coated, moist and tremulous. Throat negative. *Thorax* well formed. Expansion good and equal. *Lungs* clear on percussion and auscultation. *Heart*, point of maximum impulse in fourth interspace, 1 1-4 in. inside the nipple line. No thrill; no heave. Area of cardiac dulness normal. Systolic murmur heard everywhere over the præcordium, not transmitted beyond the nipple line. Aortic second sound louder than pulmonic second. *Abdomen*, negative. No œdema of feet or ankles. *Urine*, 24-hour specimen, April 24: 1800 cc.; color slightly pale; acid reaction; specific gravity 1019; trace of albumin; no sugar; few hyaline and granular casts. *Blood*—R. B. C. 1,400,000; W. B. C., 6,500; Hb. 30 per cent.; *Differential count*—Polymorphonuclear neutrophils, 41.1 per cent.; small mononuclears, 41 per cent.; large mononuclears, 8.5 per cent.; myelocytes, 4.1 per cent.; eosinophiles, 4 per cent.; basophiles, 1.3 per cent. In counting 348 leucocytes, 680 nucleated red cells were found, of which 24 were megaloblasts. His red cells are now 4,200,000 and hemoglobin 88 per cent.

Analyzing these four cases, we note the following facts:

1. Three were not recognized early, and not until they had knocked about from one man to another.
2. Three complained of headaches and sore mouth.
3. Three had nervous symptoms.
4. All had gastro-intestinal symptoms and weakness.
5. All were readily diagnosed by the combined clinical and blood pictures.

STAINING SPIROCHETA PALLIDA.—For staining the spirocheta pallida in a living condition, Mandelbaum proposes the following method: The material to be examined is placed on the cover-glass of a hanging-drop slide. Loeffler's methylene blue is added, and then a small drop of decinormal sodium-hydrate solution. The spirochetæ maintain their own movement, and can be easily observed.—*Muenchener Medizinische Wochenschrift*, 1907, No. 46.

Abstracts.

ARHOVIN INTERNALLY IN GONORRHEA OF THE MALE.*

BY DR. DREYSEL, LEIPZIG.

Dreysel used arhovin in fifty-eight ambulant gonorrhea cases, forty-seven acute, eight subacute, three chronic. It is doubtless borne better than any other medicament. He gave it for periods of six weeks and longer, in some cases ten to twelve capsules daily, but never saw any alimentary disturbance; he never had to suspend its exhibition, though some of his patients had previously rebelled against gonosan and santyl. The significant oral odor which often follows use of the balsams never appears with arhovin. Never was there pressure in the renal region or albuminuria. Even sensitive and irritable bladders tolerated it perfectly.

Subjective difficulties in the anterior urethra, burning on micturition, painful erections, are generally influenced most favorably by arhovin, though when there are severe inflammatory symptoms its analgesic action is sometimes less striking. Exceptionally the pains persisted even for two or three weeks. In affections of the posterior urethra the effect of arhovin on subjective symptoms was even more evident. Burning, tenesmus, pains in the region of the bladder, generally soon ceased, often in a few days, only exceptionally persisting for two or three weeks. Urinary acidity was enhanced by arhovin; when the urine was but feebly acid and cloudy, arhovin often cleared it up.

To determine the prophylactic action of arhovin, Dreysel used it in twenty-three acute gonorrheas in which the inflammation was strictly limited to the anterior urethra. In only six of them did cloudiness of the urine appear; in two it was very slight, subjective difficulties being almost entirely absent. Of the four

*Fortschritte der Medizin, Feb. 10, 1908.

others an epididymitis and prostatitis appeared in one. Metastatic formation, especially joint affections, did not appear once. The usual percentage of posterior involvement is eighty to ninety per cent., and the fact that in these cases it was but twenty-six per cent. must be ascribed to arhovin. The urine rendered bactericidal by arhovin prevents spreading of the gonorrheal process. One patient who, under arhovin, had remained free from complications for three weeks, took it upon himself to discontinue it. Shortly afterwards a posterior urethritis and epididymitis set in. This prophylactic efficacy of arhovin, Dreysel thinks, is its most valuable property, since the avoidance of complications means a material shortening of the course of the disease and a great simplification of therapy.

Dreysel concludes: Arhovin, like all of the other internal remedies, is no specific against the gonococci; nor is it a panacea for the different symptoms of the process; generally a gonorrhea cannot be cured with arhovin alone. But it is a very valuable adjuvant which is perfectly tolerated, which, used simultaneously with local measures, alleviates the difficulties and tends to prevent complications; and which oftentimes cures posterior affections, and that the more certain the less intense is the inflammation and the less extensive is the prostatic involvement.

TREATMENT OF BACTERIURIA BY INTERNAL MEDICATION.*

BY DR. J. W. CHURCHMAN, JOHNS HOPKINS HOSPITAL DISPENSARY.

The author's experience demonstrates that helmitol is not superior to urotropin in point of efficacy; in the cases in which urotropin had not wholly freed the urine from bacteria, resort to helmitol also proved unavailing.

Regarding the prevention of bacteriuria, Churchman says that in no cystoscopy done in the practice of Dr. Young, on patients

*Johns Hopkins Hospital Reports, Vol. 13, p. 189-207.

whose urine was uninfected and who had received urotropin internally, did the subsequent examination of the urine by the centrifugalization method reveal organisms. But in one case in which a patient had not received this prophylactic medication, an infection did develop. "Clinical evidence, apart from the corroborating evidence of experimental work, very strongly suggests the value of drugs internally for prophylaxis of bacteriuria; such use not only is indicated, but may be confidently expected to be efficacious."

Incipient bacteriuria without cystitis, as clinical evidence goes to show, can in the majority of cases be inhibited by internal medication. In exceptional instances the bacteriuria will persist despite treatment.

In the majority of bacteriurias associated with cystitis, as clinical evidence goes to show, it is practically impossible to wholly remove the organisms which have gotten a sufficient hold on the bladder to produce cystitis. Pus may diminish in amount, the symptoms be relieved, and the urine cleared; but only occasionally will the infection completely disappear.

From a series of bacteriological experiments with the urines of patients who took urotropin, methylene blue or salol by mouth, Churchman concludes:

1. Administration of urotropin, methylene blue or salol renders the urine inhibitive of the growth of the staphylococcus pyogenes, streptococcus pyogenes, B. typosus, B. coli communis and B. proteus vulgaris.
2. Urotropin and methylene blue are more markedly efficacious (inhibitive) than salol; the choice lies with the first.
3. These drugs effect inhibition of bacterial development rather than destructive of bacterial life. They render urine an uncongenial medium for growth, but not an environment necessitating death.
4. Their effect is weakest on the staphylococcus pyogenes and strongest on the B. typhosus and streptococcus pyogenes.

OXYGEN IN MEDICINE AND SURGERY—A CONTRIBUTION, WITH REPORT OF CASES.*

BY WILLIAM SEAMAN BAINBRIDGE, M.D., OF NEW YORK CITY.

In this contribution Dr. Bainbridge gives a very clear and exhaustive resume of the therapeutic history of oxygen from the time of its discovery by Priestly to the present day, his purpose being to stimulate scientific interest in a subject which has so long and so generally been consigned to the realm of the pseudo-scientific and the "quack." He reviews what has been done by others in subcutaneous injections of oxygen, in intravenous infusion, in obstetrics, in gynecology, in pediatrics, in general therapeutics, and in surgery. While he has for a number of years employed the gas by various methods, in the present communication he deals exclusively with his experiments in the abdominal administration, reporting a series of sixteen cases in which it has been employed by him with very satisfactory results. Cyanosis was found to be lessened, the surface of the wound became redder, the pulse and respiration improved, and shock was distinctly lessened. Blood pressure was not materially influenced. Abdominal tenderness and pain were much less than often follows laparotomy, there was less nausea and vomiting, the bowels moved more readily, the appetite was better, and the patient was not so restless.

A series of animal experiments, scientific records of which were accurately kept by Dr. Harold Denman Meeker, are also detailed by Dr. Bainbridge. These experiments were made upon cats, and were conducted along the following lines:

1. To determine the absorbability of oxygen.
2. To determine its effects upon (a) blood pressure, (b) pulse, (c) respiration, (d) degree of anesthesia, (e) time of recovery after anesthesia.
3. To effect a comparison between the results upon the above when oxygen is employed and when air is employed.

*Abstracted from *N. Y. State Journal of Medicine*, June, 1908.

4. To determine the danger-point of intra-abdominal pressure as manifested by a fall in blood pressure, respiratory embarrassment, and cardiac failure.

5. To determine the effect of oxygen upon adhesions in the abdominal cavity.

A study of these experiments leads to the following conclusions:

(1) Oxygen is completely absorbed in the abdominal cavity. (2) It is a slight respiratory stimulant. (3) It is a slight cardiac stimulant. (4) It has but little effect upon blood pressure when the pressure of the gas is moderate. (5) It tends to bring an animal quickly from deep anesthesia. (6) It hastens the recovery of an animal after discontinuance of the anesthesia. (7) A pressure of more than 1,500 mm. of water may cause collapse. (8) Oxygen tends to prevent the formation of adhesions. (9) It quickly changes a dark blood to scarlet in cases of anoxemia. (10) It stimulates intestinal peristalsis. (11) It is not an irritant to the peritoneum or abdominal viscera.

In conclusion Dr. Bainbridge evolves a scheme of possibilities for oxygen therapy. While it is not his purpose to advocate the indiscriminate and careless use of oxygen "by those whose tendency it is to follow every therapeutic will-o'-the-wisp," he wishes to stimulate practical interest in a subject which his own experience leads him to believe offers more of definite good to humanity than has yet been generally utilized.

A very complete bibliography of the literature of oxygen therapy follows the article.

APROPOS!—Before submitting a paper to the attention of your medical society, have you previously revised it with the thought that you will censor everything irrelevant, redundant, insincere; have you substituted a plain Anglo Saxon word for a polysyllabic one; have you condensed a paragraph into a sentence, and a sentence to a word if clearness demanded it? If so, in the name of a long-suffering medical audience, read your paper, and may you be thrice blessed!—*Lancet-Clinic*.

PHYSICIANS, ATTENTION.—Drugstores and drugstore positions anywhere desired in United States, Canada, or Mexico.—F. V. Kniest, Omaha, Neb.

Records, Recollections and Reminiscences.

ELEVENTH ANNUAL MEETING OF THE ASSOCIATION OF MEDICAL OFFICERS OF THE ARMY AND NAVY OF THE CONFEDERACY.

BIRMINGHAM, ALA., JUNE 9, 1908.

The Association convened in the Hall of the Commercial Club at 10 o'clock A. M., and was called to order by Dr. J. C. Abernathy of Birmingham, Chairman of the Committee of Arrangements.

The opening invocation was pronounced by Comrade E. H. Sholl, M. D., of Birmingham.

Then followed the address of welcome on behalf of the Jefferson County Medical Society by Dr. Lewis Whaley, President of that organization. This address was a most cordial and sincere welcome to the homes and hearts of the good people of Birmingham.

Mr. Percy Clark, who was expected to deliver the address in behalf of the Sons of Veterans, was not present, but his place was substituted by Mr. Booker. His speech was necessarily impromptu, yet was gracefully delivered and well received by the Association.

Dr. D. J. Roberts, of Nashville, briefly responded to the address of welcome.

The Chairman of the Committee of Arrangements, Dr. Abernathy, then called to the chair the President of the Association, Dr. Samuel E. Lewis, of Washington, D. C.

After a few introductory remarks by the President, he proceeded to deliver his annual address. Dr. J. B. Cowan, of Tennessee, having been called to the chair, none of the Vice-Presidents being in the hall.

The address of the President was published in full in the July issue of this Journal, in accordance with a unanimously adopted resolution.

At the close Dr. A. A. Lyon moved that it be referred to a spe-

cial committee, with Dr. Cowan as Chairman, for their consideration, this Committee to report at the morning's session. Adopted.

Dr. Abernathy referred to his resolution, presented at the last annual meeting, providing for the collection in book form of all the Association proceedings, from date of organization. The resolution provided for a Committee to report on the subject at this meeting.

The Secretary stated that the record did not contain the names of the Committee, provided for by the resolution.

Dr. E. D. Newton expressed a desire to present a paper at the morning hour on the following day, and suggested 10 o'clock. Subject of paper being the "History of the Association, From Its Inception in 1874."

Under regular order, Dr. Burroughs' paper was called for. He was not present.

Dr. C. J. Edwards was next. He stated that his paper was not in the hall. It was therefore directed that he be heard in regular order on the following morning.

Dr. D. J. Roberts made some remarks, emphasizing the necessity and importance of every doctor present and participating in the meeting registering his name and paying his dues. This was endorsed by the Secretary.

The Committee on President's Address, being ready to make their report today, reported, heartily commending and endorsing the various suggestions combined therein.

The President submitted a paper, detailed and specific, on the design of a new badge or button, as recommended in his address. After due discussion the design suggested was adopted by the Association as the official button or badge of the organization.

Before the adoption of the resolution Dr. Roberts rose to a point of order, claiming: (1st) That the Association had formerly adopted a button and had authorized the committee appointed for the purpose to make a contract with a reliable jeweler for the manufacture of a die and buttons, which had been done, consequently the Association could not go back on their former action without reimbursing the jeweler for any expense accruing. (2d) That it could not change its former action unless a motion to reconsider this same, offered by a member who had voted in

the affirmative, and properly seconded, had been adopted. The President ruled that his point of order was not sustained.

The President next read a paper—Dr. Cowan presiding—entitled “The Florence Nightingale of the South,” being a sketch of Mrs. Frank Newsome, *nec* King, who distinguished herself as a nurse of the C. S. Army. The paper closed with a series of commendatory resolutions, which were adopted by the Association. (The paper will be published in a subsequent issue of this Journal.)

This paper was followed by a statement from Dr. Abernathy, concerning a similar devoted and patriotic woman, Miss Kate Cummings, who lives in the vicinity of Birmingham, and at the suggestion of Dr. Abernathy, the Association extended an invitation to Miss Cummings, by rising vote, to visit the Association as an honored guest, during our sessions in this city; and, further, that a carriage and escort be sent to convey her to the hall in the event of her acceptance of invitation.

The Secretary was instructed to carry out the wishes of the Association on these points.

Dr. D. J. Roberts took the floor and made an urgent appeal to the Association to take steps for the publication of the valuable medico-historical records of the late Dr. S. H. Stout, who was Medical Director of the Hospital of the Tennessee Army.

Dr. Burdette made a very effective and affecting speech along the lines of fidelity to our trusts of members of this Association. He appealed to us to maintain our courage even in the face of present discouragements, and especially urged that we should cultivate a spirit of harmonious co-operation, and, above all, to work together under the exalted inspiration of fraternity.

The Association then adjourned until ten a. m., Wednesday, June 10.

SECOND DAY'S SESSION.

WEDNESDAY, JUNE 10, 1908.

The Association met and was called to order by Dr. S. E. Lewis, the President, at ten o'clock, a. m. In the absence of the Chaplain, Comrade Parkes made the opening prayer.

The Minutes of the preceeding session were read, corrected and approved.

Dr. Abernathy made a statement to the effect that Miss Cummings, who had on yesterday been formerly invited by the Association to visit us while in session as an honored guest, returned her heartfelt thanks, but was compelled to decline the invitation because of physical infirmities; and, further, that she would be most happy to have the members visit her at her home near Birmingham.

The Secretary read an official letter from Dr. C. H. Tebault, of New Orleans, expressive of his regrets and inability to attend the present session of the Association.

The regular program was then taken up, and Dr. Wm. B. Burroughs, of Brunswick, Ga., was called as first on the list.

Subject: "How a Virginia Girl Won the Title of Captain, was Commissioned as Such, and Placed in Charge of the Best Hospital in Richmond."

Dr. Burroughs presented his subject orally, and passed the picture of the then young lady around among the members for inspection.

On motion, Dr. Burroughs was requested to submit his story to writing, so that it could be preserved in the archives of the Association, as an interesting bit of history in connection with the hospital service of the Confederacy.

Dr. C. J. Edwards, Abbeville, La., next in order, yielded the floor to Dr. E. D. Newton, of Athens, Ga., who read a circumstantial and interesting paper on "The Conception, Origin and History of the Association of Medical Officers of the Army and Navy of the Confederacy," in the organization of which he was himself and important factor and active worker.

At the close of Dr. Newton's paper, Dr. C. J. Edwards presented a resolution of high commendation for the able and edifying exposition of this interesting history set forth; and, further providing, that same be delivered to the Southern Practitioner, with a request to publish the paper, was unanimously adopted.

The Secretary and Treasurer, by permission, presented his financial report for the past year—June, 1907-June, 1908—which is as follows:

Association of Medical Officers of the Army and Navy of the Confederacy, in account with D. J. Roberts, Treasurer (1907).

JUNE 10, 1908.

Dr. To Balance as per Report, 1907, Richmond, Va....	\$137 88
Cr. By Dues of Richmond Meeting, 1907	16 00
By Personal Dues, Birmingham, 1908.....	1 00
	<hr/>
Balance due former Secretary	\$120 88

Association of Medical Officers of the Army and Navy of the Confederacy, in account with A. A. Lyon, Treasurer (1908).

Dr. By 600 4-page Circulars and 600 Envelopes (Voucher A)	\$ 10 50
By 700 1-cent Postage Stamps	7 00
By One Record Book (Voucher B)	80
	<hr/>
	\$ 18 30
Cr. By Dues Collected, June 9, 1908	\$ 17 00
By Dues Collected, June 10, 1908	10 00
By Dues Collected prior to Meeting, 1908	3 00
	<hr/>
	\$ 30 00
Balance to Credit of Association	\$ 10 70

(This does not include the salary due present Secretary for current year.)

In connection with this report the Secretary and Treasurer called attention to a deficit of \$120.88 still due the former Treasurer, Dr. Roberts, whereupon he (Dr. Roberts) arose and made a formal tender to the Association of the balance due him. There seemed to be a disinclination on the part of the Association to accept this proffer, and no formal action was taken in the premises.

The Treasurer's report and accompanying vouchers were referred to an Auditing Committee, viz.: Drs. Burdett, Beard and Edwards.

Dr. C. J. Edwards next presented a brief but interesting paper on "Medical Expedients During the War Between the States."

He dealt mainly with the difficulties experienced by the home people in getting official drugs and medicines, and pointed out the substitutes and makeshifts forced upon the citizens who learned to utilize in primitive style the indigenous plants of the country.

In regular course, Dr. J. C. Abernathy read a paper entitled, "Antiseptics and the Army Surgeon." This paper evoked considerable discussion, participated in by Drs. Hill (Va.), Burdett (Tenn.), Newton (Ga.), Lyon (Tenn), Gunter (Texas), Bell (La.), Trueheart (Tex.), Beard (Ky.), Moon (Ala.), Jackson (Ala.), and others, and was closed by Dr. Abernathy.

The use of chloroform in the army came in for the largest consideration. It was used exclusively in the C. S. A.

The unanimous expression of opinion was that chloroform in army practice had proved a safe and successful agent. Several members had never seen a fatal case. Dr. Lyon, though in the work of Gen. Lee, for three years in Virginia, had never seen but one fatality, and this was due to manifest recklessness. Dr. Burdett had never seen but two deaths from its use. Several speakers had used it largely in obstetrics with no unfavorable issue. The conclusion in the aggregate reached was favorable to chloroform, rather than its latter day substitute, ether, etc.

Dr. Lyon next read a paper entitled, "Retreating on Appomattox—the Experiences and Recollections of a Surgeon." Dr. Lyon explained that his paper had not been prepared for this occasion and was scarcely germane to the character and purposes of the Association, but that it was offered to supplement the rather meagre list of papers furnished for our program. As such he presented it, but not for publication in our proceedings.

This closed the literary part of the session, and the Association then entered upon business.

Dr. Sam E. Lewis, vacating the chair, presented the following amendments to the constitution:

"In the second paragraph of the Constitution, line three, strike out the word 'also' and place a semicolon after the word 'Confederacy.'

"In line five place a semicolon after the word 'Confederacy' and add the following words: 'and to promote the welfare of the survivors of the Confederate States Army and Navy.'"

"Insert after the fourth paragraph of the Constitution, a fifth paragraph, as follows:

" 'Any woman, matron or nurse, who rendered faithful service in the Army Hospitals, or elsewhere in the Army or Navy of the Confederacy, may be elected to *honorary membership* upon nomination by a member of this Association.' "

"In the ninth paragraph, third line, after the word 'dollar,' strike out all the words, and insert the following words: 'annually on or before the first day in January, the names of those not so paying, to be dropped from the rolls by the Secretary, unless satisfactory excuse, for non-payment shall be made to this Association.' "

These proposed amendments involved changes affecting dues, and possibly membership. Quite an animated discussion followed, in which widely differing opinions were expressed, pending which the following was presented by Dr. Lyon:

"Whereas, in view of the importance of the proposed amendments to the Constitution, which involves a radical change in the amount of dues, and otherwise, may affect the interests of the Association; therefore be it

"*Resolved*, That further consideration be deferred till our next annual meeting, and that in the meantime the matter be ventilated as far as possible in the *Confederate Veteran*, *SOUTHERN PRACTITIONER*, and other appropriate publications in the South, to the end that we may be better prepared to take action in the premises."

Unanimously adopted.

The President then announced the Committee on Nomination of Officers, as follows: Drs. S. E. Lewis, J. C. Abernathy, A. A. Lyon, G. C. Phillips, W. F. Beard and J. L. Dismukes.

Dr. Abernathy then moved that the Association take recess till three p. m.; at the same time, extending an invitation to the entire body to dine with him at a nearby restaurant. The motion prevailed.

AFTERNOON SESSION—SECOND DAY.

On again assembling, Dr. Lewis took the floor and presented one after another, the following resolutions: (1) The appointment of a committee of three members to secure a complete

roster of the Medical Officers of the Army and Navy of the Confederacy. This resolution was adopted and Dr. S. E. Lewis designated as chairman of committee with power to choose his associate committeemen.

(2) "*Be it resolved*, That a committee of three members of this Association be appointed * * * to ascertain facts concerning records of Medical Department, C. S. A., * * * held in War Department at Washington, D. C., etc."

(Adopted.)

Same action as above was taken in regard to constitution of the committee, with S. E. Lewis chairman.

(3) "*Be it resolved*, That a committee of three members be appointed * * * to ascertain the facts concerning the Hospital Reports of the Army of Tennessee, said to be in possession of the family of Dr. S. H. Stout, etc., etc. Also concerning records left by Dr. A. J. Foard, Medical Director, Army of Tennessee, etc., etc."

(Adopted.)

Dr. Lewis, chairman of committee, with power to choose his associates.

(4) *Resolved*, That the Association request Dr. D. J. Roberts to prepare for publication, Dr. Stout's papers, etc., etc.,"

(Adopted.)

The Auditing Committee on Secretary-Treasurer's report reported same correct, leaving balance \$10.70, exclusive of his (Treasurer's) salary of \$50.00.

The Nominating Committee presented their report as follows:

President—Dr. J. C. Abernathy, Birmingham, Ala.

First Vice-President—Dr. W. F. Beard, Shelbyville, Ky.

Second Vice-President—Dr. E. D. Newton, Athens, Ga.

Third Vice-President—Dr. G. M. Burdett, Lenoir City, Tenn.

Fourth Vice-President—Dr. J. W. Hunter, Waco, Texas.

Secretary-Treasurer—Dr. A. A. Lyon, Nashville, Tenn.

The report of the Committee was accepted, and the nominees elected by acclamation.

A resolution of thanks to Jefferson County Medical Society, the city press, and the citizens generally for their gracious hospitality, etc., also to Dr. Abernathy for his services as chairman

of Reception Committee, and Mr. C. K. Booker, who assisted the Secretary, etc., was unanimously adopted.

"Auld Lang Syne" was sung and the Association adjourned until the next annual meeting in 1909.

Editorial.

A NATIONAL DEPARTMENT OF PUBLIC HEALTH.

The two great opposing political parties, one of which will during the four years beginning March 4, 1909, control the destinies of this great country, have spoken. The Republican party in its convention at Chicago was not fully in accord with the views of the leading representative medical men irrespective of party affiliation, and the American Medical Association and affiliated organizations, and did not pronounce very plainly and positively in behalf of a National Department of Health, and only "commended efforts to secure greater efficiency in public health, and favored such legislation as will effect this purpose;" while the Democratic party at Denver was content with and only advocated a "Bureau of Health," or a sub-department—a kind of horse behind the cart of some other Department; although it spoke very plainly and unequivocally in behalf of a Department of Labor, in which would be included mines and miners.

Never having voted other than the Democratic ticket, we are not only disappointed, but think that the party with which we have so long been allied has made a mistake. Most heartily endorsing a Department of Labor, and fully concurring in our National Government fostering and sustaining and earnestly caring for so vital an asset of our national life and vigor, we think and have for years thought a Department of Health to be of greatest importance, and have been hoping for years, and will continue to hope that our National law-makers will eventually make that provision so essential to the health, happiness and welfare of every citizen and resident of this great Republic.

The Public Health and Marine Hospital Service in late years have done remarkably well and much has been accomplished in so far as its powers and capabilities permitted; but we are not content with this, and confidently believe that more can be accomplished and greater results will accrue by a fuller recognition of the needs, requirements and demands of so important a subject. As our country has grown in power, population and wealth additional and successive departments have been added, and the success derived therefrom has been most satisfactorily demonstrated. The Department of the Interior has found ample scope for all its powers, energies and facilities, as has the Departments of Commerce and Agriculture. Liberal appropriations have been made in behalf of

plant and animal physiology and pathology, and great good to the entire country has resulted therefrom; it has been time and money well spent, for the products of the fields, farms and great cattle ranges constitute a very large proportion of our wealth and prosperity, and it was good business to carefully foster and protect them. Yet, are the diseases of plants and the lower animals of more importance than those of ourselves and our families?

In 1884, at the annual meeting of the American Medical Association held in Washington City, in my address as Chairman of the Section of State Medicine, the Chairmen of the several Sections then being required to deliver an address before the general meetings of the Association, I devoted a part of it to this subject, from which the following extracts are reproduced:

"As before stated, a Department of Health is fully of as much importance as that of Justice, War, or the Navy. Recognition of this fact is but an evidence of progress in civilization. 'Public health is public wealth,' is an established axiom in civilized and intelligent communities at this day. As enunciated by England's great primate, 'it should be the statesman's greatest care.'"

* * * * *

"The army and the navy have their own particular needs. While their medical and surgical staff are composed of able, talented, scientific, thoroughly educated and energetic men, and men who have closely studied the question of sanitation as regards their particular branch of the service, yet this is entirely different in many particulars from National sanitary work. That the Marine Hospital Service—a sub-department of a department—has quite enough to do in its own particular line, is well demonstrated by the fact that only during the winter just past, individuals under its own care and for whom it was organized, have become charges upon the counties of my own State, and have thereby disseminated the seeds of small-pox in more than one locality on the banks of the Tennessee River.

"I do not wish to be understood as recommending an 'autocratic power to be conferred on any one man, with sole discretion in regard to quarantine, marine or inland,' or other matters belonging to State medicine. By no means. I, as much as any one, believe in certain rights belonging to the people, certain rights belonging to the States, and certain rights by the people and by the States delegated to the National Government. There is no autocracy in the Treasury. Yet, without this Department as now organized, how could our National law-makers as successfully grapple with the intricate and delicate problems of finance? Is the 'dollar of our daddies' of more importance than the lives of our fathers, our mothers, our wives, our children, or ourselves? Are monetary questions more difficult of solution than sanitary, that we grant to Congress an able advisor, with able assistants, educated and trained as each separate need demands, for regulating and carrying out the regulations and edicts of

that Congress? Are they more important? It is by no means an autocracy that is needed. Let Congress, as the voice of the people, say what steps shall be taken to meet the invasion of foreign or domestic disease; and that it may act advisedly, and that it may have the means of carrying out its dictates—let it have a Department for this special purpose. Recruit this Department from the Army, the Navy, the Marine Hospital Service, or from civil life, from its head to its most humble subordinate; but these recruits, when in its service, owe allegiance to it alone. And when necessity occurs, or emergency arises, give such aid as may be needed from other Departments of the Government, as such need or emergency may demand.

"Is there danger that an inefficient or unsuitable man may be placed at its head? No more danger than that our Chief Executive will appoint, and the Senate will confirm, an inefficient man as Secretary of State or the Treasury. He is responsible to the people. His appointee is responsible to him, and through him to the people for the faithful execution of such laws and regulations, as the people through their representatives in Congress assembled, may decree to preserve them from foreign pestilence or domestic disease.

* * * * * "As in many of our States, we have quite a diversity of legal, social, commercial and other regulations as pertaining to the varied questions of political economy in the different States, all working smoothly together as a whole without conflict, because harmonized and properly restrained as regards each other by the various Departments of the National Government; so also, there is just as positive a certainty of harmonizing National, State and local questions of health by a similar Department.

* * * * * "As for the political bias that seems so much to be dreaded, it has no fears for me. If a Department is created as suggested, we can, I think, safely trust the Chief Magistrate elected by the American people, no matter from what political field he may come, to select a head for that Department, to manage it according to the regulations of a Congress selected by the same people."

In conclusion, we present the following editorial of Dr. Henry Waldo Coe, in a recent copy of *The Medical Sentinel*:

"The American Health League is an organization composed of physicians, ministers of the gospel, and laymen, whose reason for existence is fairly well explained in its name. It publishes a monthly periodical entitled 'American Health,' and carries as its motto upon its front page the statement of President Roosevelt that 'the preservation of national vigor should be a matter of patriotism.' It is very evident that the purpose of this organization is to supplement the efforts of the physicians of the country to promote the health of the people by preventing disease. It has a committee of one hundred, to which is delegated the carrying out of the purposes of the organization, and doubtless small sub-com-

mittees will work in special lines to secure this desired end. We notice that Luther Burbank is a member from California of this committee, and the Rev. W. G. Elliott, Jr., of Portland, is the Oregon member. Our neighboring State on the north does not seem to be represented, but certainly it is not because our Washington friends are not as highly interested in the matter as anybody else. Dr. Geo. H. Simmons, of Chicago; Dr. Frank Billings, of Chicago; Dr. Phillip Mills Jones, of San Francisco, and Dr. J. N. McCormick, of Bowling Green, Ky., are also among the hundred, thus indicating that it is smiled upon by the American Medical Association. It is the opinion of the organization that the death rate of the United States might be cut in two, if the people would apply the existing knowledge of hygiene to their living conditions.

"Federal and State legislation is looked for, and under our popular form of government, as the passage and enforcement of laws rest on public opinion, all that is needed to secure legislation of the desired character is to mould public opinion in the right direction. Something has been done in the large cities to improve the tenements of the poor, but the work has only begun. The expenditure of a few millions of dollars will increase the physical health of this country enormously. Money is expended wisely by the nation to protect our forests, but the greatest asset of all, the physical health of our citizens, is neglected. Attention is called to the fact that while the Department of Agriculture spends \$7,000,000 on plant health and animal health every year, it practically spends nothing for promoting the physical well being of babies. Tens of thousands of dollars have been expended in stamping out cholera among swine, but not one dollar for eradicating pneumonia among human beings. Hundreds of thousands are consumed in saving the lives of elm trees from the attacks of beetles; in warning farmers against blights affecting potato plants; in importing Sicilian bugs to fertilize fig blossoms in California; in ostracizing various species of weeds from the ranks of useful plants, and in exterminating parasitic growths that prey on fruit trees. In fact, the Department of Agriculture has expended during the last ten years over forty-six millions of dollars. But not a wheel of the official machinery at Washington was set in motion for the alleviation or cure of diseases of the heart or kidneys, which will carry off over six millions of our entire population. Eight millions will perish of pneumonia, and the entire event is accepted by the American people with a resignation equal to that of the Hindu, who, in the midst of indescribable filth, calmly awaits the day of the cholera.

"The members of the medical profession who have been working along this line for many years will wish the American Health League God-speed in their work."

MIDNIGHT OIL MEANS SUICIDE, SAYS DR. EDWARD EVERETT HALE.—“People talk about the midnight oil as if it had some virtue attached to it,” writes Dr. Hale in *Woman's Home Companion* for August. “In truth, four times out of five the midnight oil means overwork, or it means that you have neglected some duty which should have been attended to before the sun went down.

“Unless each night recovers the ground lost in the exertion of the day before, you are committing suicide by inches; and you have no right to commit suicide at all.”—*Woman's Home Companion* for August.

THE OLD AND RELIABLE HOUSE OF WM. R. WARNER & Co. will be incorporated under the laws of Pennsylvania, with Mr. Wm. R. Warner, Jr., retaining his connection as President of the corporation. This move enables Mr. Warner, who has managed the entire business, to transfer to others many of the details of management and at the same time assures his host of friends and patrons in the trade of a continuation of the safe and conservative policy, which has proven the keynote of its success and which has characterized it from its foundation in 1856.”

DYSMENORRHEA.—Whether a congestive, neuralgic or membranous type of Dysmenorrhea, Hayden's Viburnum Compound acts most promptly and effectively. If administered a week in advance of the flow, and its use is continued in slightly reduced doses throughout the period, the excruciating pains and cramps will be relieved.

BATTLE & Co. desire to announce that their next pamphlet will contain the fifth of the series of dislocations. These will be sent to physicians, free, on application.

AN EYE ON THE FUTURE.—Tommy's maiden aunt had called attention to some of that young man's misdemeanors, thereby causing him to be punished. Tommy pondered a while, then asked, “Papa, will little sister Gladys be an aunt to my children when I am a man?”

“Yes, Tommy,” answered his father, much interested. “Why do you ask?”

“'Cause she might as well get married and have a home of her own, for I don't intend to 'low any aunts to stay around my house, making trouble for my children.”—*Woman's Home Companion* for August.

“PARALDEHYD” possesses many of the good qualities without the evil effects of chloral. It is used successfully in cases of insomnia resulting from various causes. The objectionable taste of the chemical is, to a great extent, disguised very satisfactorily in “Robinson's Elixir Paraldehyd,” which is an elegant preparation. (See advertising, page 17.)

APOMORPHINE.—This is one of our best emergency drugs. See that you have the hypodermic tablets, about 1-10 grain, with your syringe. It relieves asthmatic attacks, acute gastralgia, choking and spasmodic conditions of all kinds. The extremes of life do not tolerate it well, but the writer has never heard of a death from apomorphine. It is certainly safer than morphine and has not many of the objectionable qualities of the latter drug. Apomorphine is a drug for hypodermic use.—W. T. MARRS.

HYSTERIA is the expression of one form of nervous debility. *Celerina* is thus peculiarly indicated, because of its tonic effect on the whole nervous system.

PRICKLY HEAT can be relieved and prevented by the use of Tyree's Antiseptic Powder. Dr. M. E. Chartier, of the Faculte de Paris, France, after using it successfully, says that it possesses curative and preventive properties to a high degree. This is the general opinion of all physicians who have tried Tyree's Antiseptic Powder in abrasions, burns, ulcers, and infected conditions of the skin and mucous membranes. Its high antiseptic properties make it one of the most powerful remedies at the command of the physicians for combating the effects of pathogenic micro-organisms after they have become active, and preventing the further growth and activity of pyogenic bacteria. It is not an expensive preparation, and therefore even long continued treatment can be carried out with comparatively small cost to the patient. Sample with chemical and bacteriological analysis sent upon request. J. S. Tyree, Chemist, Washington, D. C.

BUREAU OF PUBLIC HEALTH AND MARINE-HOSPITAL SERVICE.—A board of commissioned medical officers will be convened to meet at the Bureau of Public Health and Marine-Hospital Service, 3 B street S.E., Washington, D. C., Monday, Sept. 14, 1908, at 10 o'clock a. m., for the purpose of examining candidates for admission to the grade of assistant surgeon in the Public Health and Marine-Hospital Service.

Candidates must be between 22 and 30 years of age, graduates of a reputable medical college, and must furnish testimonials from responsible persons as to their professional and moral character.

Upon appointment the young officers are, as a rule, first assigned to duty at one of the large hospitals, as at Boston, New York, New Orleans, Chicago, or San Francisco.

After four years' service, assistant surgeons are entitled to examination for promotion to the grade of passed assistant surgeon.

Promotion to the grade of surgeon is made according to seniority and after due examination as vacancies occur in that grade.

Assistant surgeons receive \$1,600, passed assistant surgeons \$2,000, and surgeons \$2,500 a year. Officers are entitled to furnished quarters for

themselves and their families, or, at stations where quarters can not be provided, they receive commutation at the rate of thirty, forty, and fifty dollars a month, according to grade.

All grades above that of assistant surgeon receive longevity pay, 10 per cent. in addition to the regular salary for every five years' service up to 40 per cent. after twenty years' service.

The tenure of office is permanent. Officers traveling under orders are allowed actual expenses.

For further information, or for invitation to appear before the board of examiners, address "Surgeon-General, Public Health and Marine-Hospital Service, Washington, D. C."

DENGUE FEVER AGAIN.—Many of the early symptoms of dengue are identical with those of yellow fever and it is often difficult in the early stages, to distinguish one from the other. However, Dr. Vernon E. Smith of Mt. Auburn, Ky., who has had a large experience with dengue, says that there is a marked difference between the two diseases and in an article in "Medical Progress" he points out the distinguishing features. He concludes by stating that: "The prognosis in dengue fever is generally favorable, although in the very aged and in the poorly nourished infant the termination is generally death. One attack does not preclude subsequent ones, for often there is a relapse during the stage of convalescence.

The treatment is purely symptomatic as there is nothing that will cut short the attack. The greatest demand is for something to relieve the pain, and as a rule, antikamnia tablets have the desired effect. The temperature, if it runs high, should be reduced by means of the cold bath or sponging, and this should be repeated often enough to keep it down. If there is marked prostration this should be combated with stimulants, of which the alcoholic are the best. The application of heat by means of the hot water bag often gives marked relief. Sulphate of quinine administered during convalescence seems to assist recovery."

"THE CHOICE OF AN ANAESTHETIC IN RECTAL SURGERY," by Dr. Jerome M. Lynch, of New York City. This was the title of a paper read at the recent meeting of the American Proctological Society at Chicago, who stated that before the days of the specialists in anæsthesia, no matter how expert the surgeon, his success was more or less at the mercy of the recent college graduate—or undergraduate—who secured a hospital appointment and came into the operating room as the anæsthetist, without any preliminary study of the art and without any knowledge of the influence of the different anæsthetics upon the human system. Now the day of the specialist has come, and with it the trained anæsthetist, making incalculably happier the surgeon's task.

Nevertheless, the surgeon having studied his patient's system, and understanding his condition as the anæsthetist cannot, should use his own judgment in the choice of the anæsthetic to be given.

It is important that some method of shortening the anæsthesia be employed; that the intake of chloroform or ether be lessened by giving the patient some less objectional or less toxic drug, or by some preceding anæsthetic less hazardous.

Morphine and hyoscine, either as a substitute or preliminary to general anæsthesia, have been used successfully in some seventy-five cases. At the New York Polyclinic, St. Bartholomew's, and in private practice, considerable experience has been had with ethyl chloride, and it has been used now in over six hundred cases, as a general anæsthetic for short operations and examinations, or as a preliminary anæsthetic to chloroform or ether, without a single accident or bad result.

The author was the first to advocate the drop method in the use of ethyl chloride. He found that by this method the drug could be used more intelligently and that much less of the anæsthetic was required. Another advantage in this procedure is that it does not crystalize all over the mask as it does in the spray method.

The author did not advocate this anæsthetic to the exclusion of ether or chloroform, but held that for examinations, short operations, as a preliminary to ether or chloroform, and as an adjuvant to hyoscine and morphine, it is safer and more efficacious than any anæsthetic we use today. He was decidedly opposed to any form of closed inhaler. To the open method must be attributed the good results with ethyl chloride. He did not find ethyl chloride, however, suitable for any anæsthesia which lasts over ten minutes, as vomiting is apt to follow a prolonged use of this drug. It is also contra-indicated in alcoholics, children with adenoids, patients suffering from acutely inflamed conditions of the throat, or advanced cardiac disease. Spasm of the larynx has occurred in some 5 per cent. of the cases; but this is at once relieved by withdrawing the anæsthetic, or by substituting a few drops of chloroform.

Another anæsthetic that has been overlooked, and one that is particularly safe, is nitrous oxide, alone, or with oxygen.

In the author's opinion, the surgeon would get better results, and the anæsthetist gain confidence, if the anæsthetic were not rushed in the beginning. The anæsthetist should take plenty of time; let the patient get used to the smell of the anæsthetic and accommodate himself to his surroundings. The patient, then, is not frightened, it takes less of the anæsthetic, and he comes out of it in better condition. Under no circumstances should a patient be too forcibly restrained in the early stages of anæsthesia.

In conclusion, the author stated, be sure of your anæsthetist. No man should give an anæsthetic alone, till he has proved competent.

Above all, an anæsthetist is required who is competent in an emergency.

The man who knows what to do when things go wrong, and does it, is the man who is worth his fee. There is no time for cogitation when a man's heart stops beating. But there is hope for the patient and success for the surgeon *if the man behind the dope is on his job.*

COLLEGE MEN AND LONGEVITY.—From a statement in the *New York Christian Advocate* of recent date referring to Dr. James Curtis Hepburn, of Orange, N. J., Princeton's oldest alumnus celebrating the 76th anniversary of his graduation at the age of ninety-three, we learn the following: Of the 1,287 men graduated there, 1832-1851, the twenty oldest classes represented by surviving alumni, only 151 are now living. The classes of 1833, 1836, 1837 and 1838 have no survivors. Of the 151 graduates surviving, only eight are classed in the records as business men. This would seem to show that the lives of the business men in the twenty classes concerned have been shorter than those of their contemporaries who entered professions. Ranked by their relative longevity, according to the statistics of Princeton, the professions are in the following order: The law, the ministry, and medicine. The youngest alumnus living, if no older than Dr. Hepburn was on receiving his degree, must be in the neighborhood of 74 or 75 years old, and thus the survivors, 151 in number out of a total of 1,287, must range between 75 and 93 years of age.

Reviews and Book Notices.

Golden Rules of Dietetics; the General Principles and Empiric Knowledge of Human Nutrition. Analytic Tables of Food Stuffs; Diet Lists and Rules for Infant Feeding and for Feeding in Various Diseases. By A. L. Benedict, A.M., M.D., Member of Am. Academy of Medicine, and of Am. Gastroenterological Association, Author of "Practical Dietetics," etc., etc. 8 vo. cloth, pp. 407. Price, \$3. C. V. Mosby Medical Book and Publishing Co., St. Louis, Mo., publishers. 1908.

This is a very excellent work for the practitioner, the student and the trained nurse, many of whom are not as well informed as to dietetics as they should be. It contains much practical and valuable matter, with special instruction as to the best methods and kinds of feeding in the various forms of the principal diseases. From the author's preface we quote:

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